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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,831	09/27/2001	Takeshi Nakao	36856.559	2613

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KEATING & BENNETT LLP
Suite 312
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Fairfax, VA 22030

EXAMINER

DOUGHERTY, THOMAS M

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 11/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/964,831

Examiner

Thomas M. Dougherty

Applicant(s)

NAKAO ET AL.

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2002.

2a) ☐ This action is FINAL.

2b) ☒ This action is non-final.

- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.

4a) Of the above claim(s) 25-29 is/are withdrawn from consideration.

- 5) ☒ Claim(s) 10-24 is/are allowed.

- 6) ☒ Claim(s) 1-9 is/are rejected.

- 7) ☐ Claim(s) _____ is/are objected to.

- 8) ☒ Claim(s) 25-29 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.

- 10) ☒ The drawing(s) filed on 28 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some * c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)

- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.

- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____

- 5) ☐ Notice of Informal Patent Application (PTO-152)

- 6) ☐ Other:

Office Action Summary

Part of Paper No. 10

DETAILED ACTION

Election/Restrictions

The restriction is maintained for reasons noted in paper 8.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-3, 6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujimoto et al. (US 5,953,433). Fujimoto et al. show (fig. 1A) a surface acoustic wave device using a Shear Horizontal type surface acoustic wave (claim 4), comprising: a quartz substrate (see ABSTRACT); and at least one interdigital transducer (3, 4) disposed on the quartz substrate and including electrodes (tungsten, see ABSTRACT) having a larger mass-load effect than that of aluminum. As noted the at least one interdigital transducer includes at least one electrode layer made from a metal having a larger mass than that of aluminum. The at least one interdigital transducer is made from a single metal having a larger mass than that of aluminum. The transducer constitutes a one port surface acoustic wave resonator. As Fujimoto et al. show the claimed structural features his invention is regarded as meeting the functional requirements specified by the Applicants. Whether or not the device is intended for a

communications device is not given patentable weight as it is not further limiting to the claimed structure.

Claim 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsutsumi et al. (US 5,999,068). Tsutsumi et al. show (fig. 1) a surface acoustic wave comprising: a quartz substrate (col. 4, l. 21); and at least one interdigital transducer (5) disposed on the quartz substrate and including electrodes having a larger mass-load effect than that of aluminum (col. 4, ll. 32, 33). As noted the at least one interdigital transducer includes at least one electrode layer made from a metal having a larger mass than that of aluminum. The at least one interdigital transducer is made from a single metal having a larger mass than that of aluminum. The transducer constitutes a one port surface acoustic wave resonator. They generate transversal mode coupling.

Tsutsumi et al. show a plurality of interdigital transducers arranged to constitute a longitudinally coupled resonator filter (col. 4, l. 29). They further show show a plurality of longitudinally coupled resonator filters, which are arranged in a cascade arrangement in at least two stages. They show plurality of the interdigital transducers connected to constitute a ladder-type or lattice-type filter (cascade arrangement) on the quartz substrate. As Tsutsumi et al. show the claimed structural features their invention is regarded as meeting the functional requirements specified by the Applicants. Whether or not the device is intended for a communications device is not given patentable weight as it is not further limiting to the claimed structure.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The remaining prior art cited reads on some aspects of the claimed invention.

Allowable Subject Matter

Claims 10-24 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art fails to show or fairly suggest the limitations for the value of the normalized film thicknesses of the electrodes in a surface acoustic wave device comprised of quartz with an IDT on it and generating a shear horizontal wave.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Direct inquiry concerning this action to Examiner Dougherty at (703) 308-1628.

tmd
tmd

November 7, 2002

Thomas M. Dougherty
THOMAS M. DOUGHERTY
PRIMARY EXAMINER
GROUP 2100
2100